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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,499	08/01/2003	Frank Olschewski	21295.59(H5644US)	4405
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HOUSTON ELISEEVA 4 MILITIA DRIVE, SUITE 4 LEXINGTON, MA 02421			EXAMINER ROSARIO, DENNIS	
			ART UNIT 2624	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/632,499

Applicant(s)

OLSCHEWSKI, FRANK

Examiner

Dennis Rosario

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because fig. 4, num. 52 has two arrows on the bottom portion of numeral 52 wherein the specification does not differentiate the arrows and also conflicts with claim 3's interpretation of "parallel."

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 11 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 11 is drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

“Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer.”

“Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure’s functionality to be realized.”

Claim 11, while defining data medium, does not define a “computer-readable medium” and is thus non-statutory for that reasons. A data medium can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on “computer-readable medium” in order to make the claim statutory.

“In contrast, a claimed computer-readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized, and is thus statutory.” - MPEP 2106.IV.B.1(a)

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3, line 2 states "and parallel therewith" what does this phrase mean? This claim limitation appears to correspond to fig. 4, num. 52 where three arrows correspond the claimed parallel. Please clarify.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "wherein for the application of a filter" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5,7,8,9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Fogg (US Patent 6,466,624 B1).

Regarding claim 7, Fogg discloses an arrangement for optimizing the image quality of movable subjects imaged with a microscope system, the microscope system comprising:

a) at least one objective (or "macroblock" in col. 13, line 20 and shown in fig. 8B as a smaller square relative to fig. 8,num. 811) defining an image window,

b) a detector unit (fig. 5,num. 503) for acquiring a plurality of images each having a plurality of pixels,

c) a computer system (fig. 5,num. 502), which encompasses:

c1) a means for determining a respective displacement vector field (fig. 10c, num. 1021 determines a "vector value" in col. 16, line 53) from a comparison ("via matching criteria") of the respective pixels (wherein said matching criteria corresponds to "pixel areas displaced" in col. 16, line 12 wherein said displaced is a form of comparison) of at least two chronologically successive images (or "bitstream" in col. 16, line 11),

c2) a means for identifying a trajectory (fig. 10c,num. 1026) for each pixel of the image from the displacement vector fields (represented in fig. 10c and num. 1021), and

c3) a means for applying an operation (fig. 10c, num. 1029) to the image data along a trajectory (wherein fig. 10c, num. 1029 is used a "source for a...filter" in col. 15, line 55).

Regarding claim 8, Fogg discloses the arrangement as defined in claim 7, wherein the means for applying an operation to the image along a trajectory encompasses any operation operating in time-space fashion (fig. 6,num. 609 a detailed view of which is shown in fig. 13 uses temporal and spatial values as indicated in fig. 13, num. 1303 and the input of 1301, respectively).

Regarding claim 9, Fogg discloses the arrangement as defined in claim 7, wherein:

- a) a first image memory (fig. 6,num. 601) is provided which stores the data of the plurality of acquired images; and
- b) a second image memory (fig. 6, upon the output of fig. 6, num. 609: "Storage") is provided which stores the data created by the correlation (or "correlate" in col. 18, line 41) of the data from the first image memory with the data from a trajectory memory (fig. 5,num. 517).

Regarding claim 11, Fogg discloses software on a data medium (fig. 5,num. 507), wherein the software cause a microscope system to carry out a method as defined in claim 1.

Claims 1 and 2 are rejected the same as claims 7 and 8. Thus, argument similar to that presented above for claims 7 and 8 of an arrangement is equally applicable to claims 1 and 2 of a method.

Regarding claim 3, Fogg discloses the method defined in claim 1, wherein the plurality of acquired images are conveyed to an image memory (fig. 6, num. 601); and parallel therewith, data from the plurality of acquired images are conveyed to an optical flow calculator (fig. 10A, num. 1001 outputs "Optical Flow Metrics" as shown upon the output of fig. 10A, num. 1001) and to a trajectory tracker (fig. 10C, num. 1026) and to a trajectory memory (fig. 5, num. 517).

Regarding claim 4, Fogg discloses the method as defined in claim 3, wherein for the application of a filter, data of the acquired images can be retrieved from the image memory (via fig. 6,num. 602), and corresponding data can be retrieved from the trajectory memory (fig. 5,num. 517), and can be correlated (or "correlate" in col. 18, line 41).

Regarding claim 5, Fogg discloses the method as defined in claim 4, wherein the data generated by application of the filter can be conveyed to a second image memory (fig. 6, upon the output of fig. 6, num. 609: "Storage").

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fogg (US Patent 6,466,624 B1) in view of Nybo et al. (US Patent Application Publication No.: US 2001/0052933 A1).

Regarding claim 6, Fogg does not disclose claim 6, but does teach "clues...to the nature of the captured video source and encoder-based processing" in col. 12, lines 66 to col. 13, line 1. Thus, Fogg suggests that the video source is not known since clues are needed to determine the nature of the video source and encoder-based processing, and the video source and encoder-based processing can be anything that provides a video source with encoder-based processing from which clues are to be determined.

Nybo et al. teaches a video source and as shown in fig. 1, num. 112 and associated encoder-based processing or "MPEG algorithm" in paragraph [0042], line 12 as suggested by Fogg that could possibly be used with Fogg's invention and claim 6 of a microscope system that contains:

a) a conventional microscope (or "microscope" in paragraph [0034], last line).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to use Nybo et al.'s microscope with MPEG algorithm, because Nybo et al.'s teaching of a microscope is an "invaluable tool...used by a medical practitioner in diagnosis and treatment of patients" in paragraph [0005], last line.

Claim 10 is rejected the same as claim 6. Thus, argument similar to that presented above for claim 6 of a method is equally applicable to claim 10 of an arrangement.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sezan et al. (US patent 5,600,731) is pertinent as teaching a trajectory of pixels as shown in figures 1 and 2 and filtering as shown in fig. 5, last step of the flow chart.

Kim et al. (US Patent 5,502,489 A1) is pertinent as teaching every limitation of claim 1 and every limitation of claim 7 except for the claimed computer.

Lu (US Patent 5,361,105 A1) is pertinent as teaching a method of block-based motion estimator, fig. 2,num. 20, with pixel-based trajectory correction, fig. 2,num. 30, and noise reduction, fig. 2,num. 60.


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is (571) 272-7397. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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